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Commercial Fertilizers, Commercial Feeds

AND

Agricultural Liming Materials

Results of Tests on Products Sold as Vitamin D Carriers.

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Assay of Vitamin D Supplements Sold in Maryland for Poultry Feeding Purposes. May, 1934.

The results of a recently completed assay of samples of eleven antirachitic oils being sold in Maryland for poultry feeding purposes are presented below. Each oil has been tested at the percentage guaranteed by the manufacturer to furnish complete protection by the Association of Official Agricultural Chemists' method for assaying antirachitic materials.

The results reported here were obtained on samples drawn from stocks invoiced since January 1, 1934, being offered for sale by dealers in this State. Lack of laboratory space prevented the assay of all brands encountered by our inspectors this year, but, if samples are available, those oils not included in this assay, along with samples from fresh lots of some of the brands included above, will be assayed later in the year.

In the A. O. A. C. method of assay, measurement of the potency of an antirachitic material is based on the percentage of ash produced in the tibia of chicks. A group bone ash average of 44% or better indicates normal bone development, and hence a satisfactory supply of vitamin D. Averages less than 44% indicate subnormal calcification. In the table following the term "Satisfactory" indicates that a group of birds fed the basal rachitic ration supplemented with the indicated percentage of the respective oil showed an ash average of 44% or better. The term "Unsatisfactory" indicates an ash percentage of less than 44%.

In view of the natural variation in the vitamin D potency of most antirachitic material, it is our opinion that the greatest advantage can be obtained from these assays if the results from several tests on samples of different lots of the same brand are compared. Reports of previous tests on a number of the brands reported here have been published by this department from time to time and may be advantageously utilized for this purpose.

In conclusion, it should be emphasized that the percentages guaranteed to give protection by the A. O. A. C. method may be considerably lower than the levels recommended by the manufacturers of the respective oils for practical feeding purposes.

The feeling is quite general that for practical feeding purposes a greater quantity of oil or other antirachitic supplement should be fed than that which is shown by biological tests to just meet the needs of chicks. A common practice is to allow a "100% margin of safety" by feeding double this minimum requirement. In other words if an oil is found to furnish just enough vitamin D by biological tests at 0.5% of the total ration, a reasonable margin of safety would be provided in actual feeding practice by supplying the oil to the chicks at a level of about 1% of the total ration.

Results of Assay of Antirachitic Oils Sold in Maryland for Poultry Feeding. May 1, 1934

Distributor and Brand	Guaranteed Per Cent	Result
Silmo Poultry D Cod Liver Oil, Silmo Chemical Co., Vineland, New Jersey	½	Satisfactory
Silmo XX Cod Liver Oil, Silmo Chemical Co., Vineland, N. J.	1-8	Satisfactory
Fox Special Cod Liver Oil, The Fox Co., Newfield, New Jersey	½	Satisfactory
Vitamin Brand Pure Norwegian Cod Liver Oil, U. S. P. Chas. L. Huisking & Co., New York, N. Y.	¼	Satisfactory
Sardilene F. E. Booth Co., Inc. San Francisco, California.	¼	Unsatisfactory
Pratts Cod Liver Oil, Pratt Food Company, Buffalo, N. Y.	½	Unsatisfactory
Acton Pure Norwegian Cod Liver Oil, not U. S. P., Philadelphia, Penna.	½	Satisfactory
Acton XX Pure Norwegian Cod Liver Oil, Medicinal, Grade U. S. P.	½	Satisfactory
CICO Cod Liver Oil, Consumers Import Co., Inc., New York, New York.	½	Satisfactory
Nopco EE Cod Liver Oil, National Oil Products Co., Harrison, N. J.	¼	Satisfactory
Isdahl's Norwegian Cod Liver Oil McKesson & Robbins, Bridgeport, Conn.	½	Satisfactory

Association of Official Agricultural Chemists Method of Assay. See Journal of this Association, Volume XVII, Page 69, 1934.